

## PEER REVIEW HISTORY

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### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Maternal and neonatal outcomes of vaginal breech delivery for singleton term pregnancies in a carefully selected Cameroonian population: a cohort study.
<b>AUTHORS</b>	Dohbit, Julius Sama; Foumane, Pascal; Mamoudou, Fadimatou; Mazou, Temgoua Ngou; Tankeu, Ronni; Aletum, Veronica; Mboudou, Emile; Tochie, Joel Noutakdie

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Rose McGready Shoklo Malaria Research Unit, Mahidol-Oxford Tropical Medicine Research Unit, Mahidol University, Mae Sot, 63110, Thailand.
<b>REVIEW RETURNED</b>	29-Apr-2017

<b>GENERAL COMMENTS</b>	<p>Overview: The authors correctly report on the lack of data from LIC, and present a snippet of 4 years of breech birth data from Yaounde Gynaeco-Obstetric and Pediatric Hospital (YGOPH) in Cameroon, using specified selection criteria to match to cephalic births. 66 eligible breech births were identified, but only 53 were matched to cephalic births in a ratio of 1:4. Findings were not unexpected, or perhaps better than expected, possibly due to the criteria applied in retrospect. The retrospective nature of the study has been noted in the discussion. To present LIC breech birth outcomes presenting all the data and the matched cohort data would be more informative.</p> <p>1. By the time selection criteria defined by internationally recognized organization were applied a cohort of 364 singleton pregnancies was reduced to 53 ...&lt;15% of the entire cohort – matching the strict criteria (in retrospect) to the vaginal births may have introduced some bias. Vaginal breech birth in low resource settings has many constraints. The true outcomes of vaginal breech birth in a low resource setting should be presented to better illustrate the constraint in LIC. Some modifications to the current manuscript could add beneficial data.</p> <p>2. For the 344 known EGA births include a repeat of table 1 and table 2 and table 3 with columns headers of selected (n=66); C.sections n=120 ... consider splitting into elective and planned breech birth that became emergent cases; PTB n=95; Post-term n=25; LBW &lt; 2500 n=26; and the &gt;3500 g n=12. Paragraph 2 of the discussion can be much more interesting with this data being presented.</p>
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	<p>3. To the flow chart add the reasons for 33% (120/364) C.section – e.g. % previa, % footling breech, % large primi breech, % elective CS, % emergency CS including the proportion with slow progress in labour (how many started as planned vaginal breech and became emergent breech C.sections).</p> <p>4. Unfortunately 19.7% (13/66) of vaginal breech births were omitted, due to lack of control. Given the proportion of cephalic to breech births this seems odd and there are a few possible solutions. Be more flexible on the matching or allow the remaining 13 to have 2-3 controls.</p> <p>5. How many were unexpected breech births?</p> <p>6. What position are women birthed in? Recumbent or upright/ with or without legs in holders?</p> <p>7. How was fetal heart rate monitored? Intermittent auscultation with pinnard or hand held Doppler? Or other?</p> <p>8. How was brachial plexus injury defined and when and by whom?</p> <p>9. How is birth asphyxia defined?</p> <p>10. How was length of labour determined?</p> <p>11. Was a partogram used?</p> <p>12. Were forceps used?</p> <p>13. Is it possible to add augmentation with oxytocic(?misoprostol) to the data – is the longer length of labour due to reticence to prescribe oxytocic in the case of breech?</p> <p>14. Table 1 Separate the &lt; 20 years off- the outcome in teenagers is important to identify.</p> <p>15. What proportion of vaginal breech births were delivered by doctor or delivered by midwives – this could be added to table 2.</p> <p>Minor Check journal requirement for number of decimal place values for 'p' e.g. (p=0.000001) can be reported as p&lt;0.001</p> <p>The references by van Roosmalen J., and Meguid T.. 2014. The dilemma of vaginal breech delivery worldwide. Lancet 383:1863–1864. Could be included</p>
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<b>REVIEWER</b>	Dr Gregory Halle-Ekane Faculty of Health Sciences, University of Buea. Box 12. Buea-Cameroon
<b>REVIEW RETURNED</b>	03-May-2017

<b>GENERAL COMMENTS</b>	The reviewer provided a marked copy with additional comments. Please contact the publisher for full details.
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<b>REVIEWER</b>	Dr Gbenga A. Kayode International Research Centre of Excellence(IRCE), Institute of Human Virology, Plot 252, Herbert Macaulay Way, Abuja, Nigeria Julius Center for Health Sciences and Primary Care, University Medical Centre Utrecht, Utrecht, The Netherlands No Competing Interest
<b>REVIEW RETURNED</b>	12-Jun-2017

<b>GENERAL COMMENTS</b>	<p>This study examined associations between vaginal breech delivery and adverse maternal and neonatal outcomes in a tertiary setting. It is a very relevant study in the field of maternal and child health but this study will require a major review before considering it for publication.</p> <p>Title</p> <p>1) The authors should rephrase the title to show that this manuscript examined association between vaginal breech delivery and adverse maternal and neonatal outcomes.</p> <p>Introduction</p> <p>2) The authors mentioned in the second paragraph that this paper will contribute to an ongoing debate on safest mode of delivering breech presentation but they ended up not investigating the safest mode of delivering breech presentation. In other words, they did not compare different modes of delivering breech presentation. I will like the authors to restructure the introduction in a manner that will justify why this study assessed associations between vaginal delivery and adverse maternal and neonatal outcomes.</p> <p>Methods</p> <p>1) The authors did not mention the required sample size. I will like the authors to explain why they ignored sample size estimation.</p> <p>2) The authors should explain why the reference group was not randomly sampled from the eligible participants.</p> <p>3) I will like to know whether the authors applied the exclusion criteria (multiple gestations, footling breech presentation, clinically inadequate maternal pelvis, preterm delivery (fewer than 37 weeks of gestation), pregnancies older than 41 weeks, known cases of foetal demise prior to the onset of labour. Additional exclusion criteria were the presence of a major foetal congenital anomaly (like anencephaly, congenital heart diseases, hydrocephalus), or if there was a contraindication to vaginal delivery such as placenta praevia) when selecting pregnant women who had a vaginal breech delivery.</p>
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	<p>4) The authors should explain why they used multiple matching instead of adjusting for the potential confounders in a multivariable regression analysis</p> <p>5) Despite the fact that the authors used matching and eligibility criteria, the two groups (breech and cephalic presentation) will still be different. I will like to know why the authors ignored the residual confounding effect.</p> <p>6) I will like the authors to present a table (Table 1) that compare the characteristics of the two groups (breech and cephalic presentation).</p> <p>7) I will like to know how the authors addressed missing data</p> <p>8) The authors should define the study outcomes in the method section.</p> <p>Discussion</p> <p>9) I don't think the authors need to mention the eligibility criteria in the discussion</p>
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## VERSION 1 – AUTHOR RESPONSE

### Reviewer 1: Rose McGready

1. Reviewer's comment: By the time selection criteria defined by internationally recognized organization were applied a cohort of 364 singleton pregnancies was reduced to 53 ... <15% of the entire cohort – matching the strict criteria (in retrospect) to the vaginal births may have introduced some bias. Vaginal breech birth in low resource settings has many constraints. The true outcomes of vaginal breech birth in a low resource setting should be presented to better illustrate the constraint in LIC. Some modifications to the current manuscript could add beneficial data.

Authors' revision: This study aimed at determining the maternal and neonatal outcomes of vaginal breech delivery for singleton term pregnancies using selection criteria defined by internationally recognized organizations (eg International Federation of Obstetricians and Gynaecology, the Royal College of Obstetricians and Gynaecologists, and the Society of Obstetricians and Gynaecologists of Canada). This is what makes our study different from the existing literature in low-income countries. The true outcomes of vaginal breech birth in a low resource setting without taking into account this selection criteria, has already be described in the literature in the following studies:

a. Olivier Mukuku, Julien Kimbala, Justin Kizonde. Accouchement du siège par voie basse: étude de la morbi-mortalité maternelle et néonatale. *Pan Afr Med J.* 2014;17:27

b. Kemfang Ngowa JD, Kasia J M, Ekotarh A, Nzedjom C. Neonatal Outcome of Term Breech Births: A 15-Year Review at the Yaoundé General Hospital, Cameroon. *Clin Mother Child Health.* 2012;9:1–3.

c. Orji EO, Ajenifuja KO. Planned vaginal delivery versus Caesarean section for breech presentation in Ile-Ife, Nigeria. *East Afr Med J.* 2003;80:589–91.

d. Mayi-Tsonga S, Mandji JM, Mimbila-Mayi M, Olè BS, Bang J, Meyè JF. Pronostic de l'accouchement du siège à terme: étude comparative et analytique à Libreville (Gabon). *Clin Mother Child Health.* 2012;9:1–5.

2. Reviewer's comment: To the flow chart add the reasons for 33% (120/364) C.section – e.g. % previa, % footling breech, % large primi breech, % elective CS, % emergency CS including the proportion with slow progress in labour (how many started as planned vaginal breech and became emergent breech C.sections).

Authors' revision: we have added this information in the revised flow chart.

3. Reviewer's comment: Unfortunately 19.7% (13/66) of vaginal breech births were omitted, due to lack of control. Given the proportion of cephalic to breech births this seems odd and there are a few possible solutions. Be more flexible on the matching or allow the remaining 13 to have 2-3 controls.

Authors' revision: Thank you for this advice, put for higher statistical precision we think maintaining a matching ratio of 1:4 is really maximal for statistical power.

4. Reviewer's comment: How many were unexpected breech births?

Authors' revision: Page 8, Line 181 to 182: we stated that "Of the 53 VBD, 12 (22.6%) were unexpected breech births diagnosed only during labour".

5. Reviewer's comment: What position are women birthed in? Recumbent or upright/ with or without legs in holders?

Authors' revision: Page 6, Line 129 to 130: we added that "All deliveries occurred with women lying in the recumbent position with legs in holders".

6. Reviewer's comment: How was fetal heart rate monitored? Intermittent auscultation with pinnard or hand held Doppler? Or other?

Authors' revision: Page 6, Line 130 to 131: we added that 'Foetal heart monitoring electronically by means of a cardiotocography machine".

7. Reviewer's comment: How was brachial plexus injury defined and when and by whom?

Authors' revision: Page 7, Line 148 to 151: we added that 'Brachial plexus injury was defined as any paralysis of the muscles of the shoulder girdle, arm, forearm of the newborn and occurring after dystocia (difficult childbirth). It was diagnosed by the attending obstetrician or midwife at birth and confirmed by a paediatrician during the first physical examination of the newborn within 24 hours of birth".

8. Reviewer's comment: How is birth asphyxia defined?

Authors' revision: Page7, Line 151 to 153: Birth asphyxia was diagnosed based on the Modified Sarnat-Sarnat Score and a five-minute Apgar score  $\leq 3$  associated with neurological signs such as hypotonia, coma or convulsions.

9. Reviewer's comment: How was length of labour determined?

Authors' revision: Page7, Line 154 to 155: The length of labour was the estimated time period from 4 cm cervical dilatation to expulsion of the foetus.

10. Reviewer's comment: Was a partogram used?

Authors' revision: Page 7, Line 154 to 156: For all deliveries, this time interval was monitored and recorded on a partogram.

11. Reviewer's comment: Were forceps used?

Authors' revision: Page 8, Line 172: nine (17%) vaginal breech births required forcep delivery

12. Reviewer's comment: Is it possible to add augmentation with oxytocic(?misoprostol) to the data – is the longer length of labour due to reticence to prescribe oxytocic in the case of breech?

Authors' revision: Page 8, Line 181: nine (17%) vaginal breech births required forceps delivery.

13. Reviewer's comment :Is it possible to add augmentation with oxytocic(?misoprostol) to the data – is the longer length of labour due to reticence to prescribe oxytocic in the case of breech?

Authors' revision: we revised this in table 2

14. Reviewer's comment : Separate the < 20 years off- the outcome in teenagers is important to identify.

Authors' revision: this has been revised in table 1

15. Reviewer's comment: What proportion of vaginal breech births were delivered by doctor or delivered by midwives – this could be added to table 2

Authors' revision: unfortunately we could not retrieve this data, due to the retrospective design of the study.

16. . Reviewer's comment: Check journal requirement for number of decimal place values for 'p' e.g. (p=0.000001) can be reported as p<0.001

Authors' revision: this has been revised to p<0.001 in the text and tables

17. Reviewer's comment: The references by van Roosmalen J., and Meguid T.. 2014. The dilemma of vaginal breech delivery worldwide. Lancet 383:1863–1864. Could be included

Authors' revision: Page 4, Line 86: this has been cited.

**Reviewer 2: Dr Gregory Halle-Ekane**

1. Reviewer's comment: Page 2, Line 26: what of maternal?

Authors' revision: Page 2, Line 26: we added the word "maternal"

2. Reviewer's comment: Page 2, Line 40: like? Secondly, I wonder whether the terminology 'false-positive results' is adapted for this study. Is 'type I error of analysis' better?

Authors' revision: Page 2, Line 40: this was revised accordingly

3. Reviewer's comment: Page 3, Line 63: placement of commas and full stops in your text please.

Authors' revision: we have revised the use of punctuations in the text

4. Reviewer's comment: Page 3, Line 75: Better terminology; resource limited or low-income countries

Authors' revision: Page 3, Line 77: we have changed "developing countries" to " resource-limited countries"

5. Reviewer's comment: Page 5, Line 102: reviewed case notes of all.....

Authors' revision: Page 5, Line 104: we have changed 'reviewed all pregnant women' to " reviewed case notes of all pregnant"

6. Reviewer's comment: Page 5, Line 106 More details on personnel in maternity and neonatal units as this will definitely have an impact on the maternal and perinatal outcomes. This do not only depend on the presence of an obstetrician during childbirth.

Authors' revision: Page 5, Line 104: we added " The maternity unit is taken care of by 12 obstetricians-gynaecologists and 21 midwives.

7. . Reviewer's comment: Page 5, Line 110: Rephrase: The cases were selected based on the guidelines.....

Update using recent guidelines (reference 6 in 1995)

Authors' revision: Page 5, Line 112: we revised accordingly and stated the most recent existing guideline, especially for the the Royal College of Obstetricians and Gynaecologists

8. Reviewer's comment: Is this true? This looks like a herculean task. Matching cases and reference population exactly for age and parity especially with a proportion of 1:4 (nulliparous, parity 1-4, Grand multiparous 5 and above seems more realistic and age as a range X +/- 5year for example

Authors' revision: this is true

9. Authors' revision: Page 5, Line 119: we have changed "fewer" to " less"

10. Authors' revision: Page 5, Line 125: we have changed 'retrospectively followed-up' to " followed-up retrospectively"

11. Authors' revision: Page 5, Line 119: we have changed "pregnancies older than 41 weeks" to "post term pregnancies"

12. Authors' revision: Page 7, Line 162: we have changed "relative risk" to "odds ratios"

13. Authors' revision: Page 7, Line 164: we have changed "false-positive results" to "type I error"

14. Reviewer's comment: The Demographic and obstetrical data for the cases and reference population (which you refer to as controls) should be presented separately and compared. This will confirm that matching for at least for age and parity was properly done. It might also help identify some co-variables or confounders.

Authors' revision: we revised this in table 1 and page 8, line 186: Both VBD and VCD groups showed similarities in maternal age, parity, marital and employment status.

15. Authors' revision: page 8, line 190 to 193: we provided the odds ratios of the maternal outcomes

16. Authors' revision: page 9, line 198 to 200: we provided the odds ratios of the neonatal outcomes

17. Reviewer's comment: page 11, line 244: Update: current guidelines

18. Authors' revision: apart from the Royal College of Obstetricians and Gynaecologists which had recent guidelines (2017), the FIGO and Society of Obstetricians and Gynaecologists of Canada did not have more recent guidelines than those previously presented.

### **Reviewer 3: Dr Gbenga A. Kayode**

1. Reviewer's comment: The authors should rephrase the title to show that this manuscript examined association between vaginal breech delivery and adverse maternal and neonatal outcomes.

Authors' revision: Page 1, Line 2: we have revised the title to " Maternal and neonatal outcomes of vaginal breech delivery for singleton term pregnancies in a carefully selected Cameroonian population: a cohort study"

2. Reviewer's comment: The authors did not mention the required sample size. I will like the authors to explain why they ignored sample size estimation.

Authors' revision: Page 5, Line 113 to 115: we stated the sample size calculation.

3. Reviewer's comment: The authors should explain why the reference group was not randomly sampled from the eligible participants.

Authors' revision: we did a convenience sampling in which we recruited all cases of VBD obeying the selection criteria mentioned in the study. Hence, we could not do a random sampling.

4. Reviewer's comment: I will like to know whether the authors applied the exclusion criteria (multiple gestations, footling breech presentation, clinically inadequate maternal pelvis, preterm delivery (fewer than 37 weeks of gestation), pregnancies older than 41 weeks, known cases of foetal demise prior to the onset of labour. Additional exclusion criteria were the presence of a major foetal congenital anomaly (like anencephaly, congenital heart diseases, hydrocephalus), or if there was a contraindication to vaginal delivery such as placenta praevia) when selecting pregnant women who had a vaginal breech delivery.



Authors' revision: Yes, all this selection criteria we respected. This is illustrated in the revised flow chart (Figure 1).

5. Reviewer's comment: The authors should explain why they used multiple matching instead of adjusting for the potential confounders in a multivariable regression analysis

Authors' revision: we used multiple matching by convenience.

6. Reviewer's comment: Despite the fact that the authors used matching and eligibility criteria, the two groups (breech and cephalic presentation) will still be different. I will like to know why the authors ignored the residual confounding effect.

Authors' revision: though there may still be some residual confounding effect, we limited its probability through Bonferonni correction and matching.

7. Reviewer's comment: I will like the authors to present a table (Table 1) that compare the characteristics of the two groups (breech and cephalic presentation).

Authors' revision: This is illustrated in the revised Table 1

8. Reviewer's comment: I will like to know how the authors addressed missing data

Authors' revision: we initially planned in our methods to exclude variables with too much missing data precluding meaningful analyses. But thanks to the good prevailing file filling and record keeping system in this hospital, the data finally obtained had few missing data. This enabled the analyses presented in the various tables.

9. Reviewer's comment: I will like the authors to present a table (Table 1) that compare the characteristics of the two groups (breech and cephalic presentation).

Authors' revision: This is illustrated in the revised Table 1

10. Reviewer's comment: The authors should define the study outcomes in the method section.

Authors' revision: Page 7, Line 147 to 158: we defined the study outcomes

11. Reviewer's comment: I don't think the authors need to mention the eligibility criteria in the discussion

Authors' revision: this has been deleted

## VERSION 2 – REVIEW

<b>REVIEWER</b>	Rose McGready Shoklo Malaria Research Unit, Thailand University of Oxford, UK
<b>REVIEW RETURNED</b>	15-Jul-2017

<b>GENERAL COMMENTS</b>	<p>The manuscript has improved.</p> <p>I have only a few residual comments: there was a significantly higher proportion of breech vaginal birth where the mother had &lt;4 ANC visits (Table 1) – so this group are possibly a higher risk group to begin with – and this should be acknowledged as a further limitation. It may also suggest that the breech were unrecognized?</p> <p>Recommendations that need to be added to the discussion include:</p> <ol style="list-style-type: none"><li>1.ECV should be promoted before promoting policy of elective C.Section. How can this be achieved?</li><li>2.Practitioners will continue to require training in breech birth to minimize risk of brachial plexus injury (as unexpected vaginal breech births continue to occur).</li></ol> <p>Flow chart: The proportion of pregnancies exclude &gt;41 weeks seems very high.</p>
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<b>REVIEWER</b>	Dr Gregory Halle-Ekane FACULTY OF HEALTH SCIENCES UNIVERSITY OF BUEA BUEA - CAMEROON
<b>REVIEW RETURNED</b>	26-Jul-2017

<b>GENERAL COMMENTS</b>	The reviewer provided a marked copy with additional comments. Please contact the publisher for full details.
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## VERSION 2 – AUTHOR RESPONSE

### Reviewer 1: Rose McGready

1. Reviewer's comment: I have only a few residual comments: there was a significantly higher proportion of breech vaginal birth where the mother had <4 ANC visits (Table 1) – so this group are possibly a higher risk group to begin with – and this should be acknowledged as a further limitation. It may also suggest that the breech were unrecognized?.

Authors' revision: Page 10, Line 229 to 233: we stated that " Furthermore, less than four ANC visits were attended in 68% of VBD compared to 43% of VCD studied ( $p = 0.002$ ). ANC attendance was not a matching variable between the VBD and VCD groups. Hence, the VBD cases were a higher risk group from the onset of the study and 22.6% of VBD were unrecognized before the onset of labour. "

2. Reviewer's comment: Recommendations that need to be added to the discussion include:

1.ECV should be promoted before promoting policy of elective C.Section. How can this be achieved?

2. Practitioners will continue to require training in breech birth to minimize risk of brachial plexus injury (as unexpected vaginal breech births continue to occur).

Authors' revision: Page 11, Line 248 to 253: we stated that " Also, the practise of external cephalic version should be taught and promoted in this resource-limited setting as a means to revert breech to cephalic presentations and reduce the neonatal and maternal morbidities associated with VBD. Refresher courses for the management of breech birth should be organised for health personnel in order to minimize risk of brachial plexus injury. "

## **Reviewer 2: Dr Gregory Halle-Ekane**

1. Reviewer's comment: Distinction between Strengths and limitations

Authors' revision: Page 3, Line 52 to 61: we separated the strengths and limitations into two separated headings.

2. Reviewer's comment: Introduction section; you assume that caesarean sections for some breech presentation are always easy to perform!

Authors' revision: This statement was not an assumption. It was rather copied from the guidelines we cited.

3. Reviewer's comment: Materials and methods section; Number of child births per year.(helps to evaluate the work load and quality of care). Brief statement on the neonatal care services is important

Authors' revision: Page 5, Line 109 to 114: we stated that " its annual number of child births varies between 2000 to 2500 deliveries. The YGOPH is equipped with modern equipment and personnel to provide comprehensive Emergency Obstetric and Neonatal Care (EmONC) services. The maternity unit is taken care of by 12 obstetricians-gynaecologists and 21 midwives. The hospital has a neonatology unit is taken care of by five paediatricians, two general practitioners, and fourteen nurses".

4. Reviewer's comment: Materials and methods section; Reference 4 and 5, no recent guidelines? Also check order of references

Authors' revision: Page 5, Line 116 to 118: we have provided the latest references and checked their order.

5. Reviewer's comment: Materials and methods section; Does sound English!

Authors' revision: Page 6, Line 129 to 130: we have revised accordingly

6. Reviewer's comment: Materials and methods section; rephrase

Authors' revision: Page 6, Line 134 to 135: we have revised accordingly

7. . Reviewer's comment: Materials and methods section; Meaning?

Authors' revision: Page 6, Line 146: we have revised accordingly

8. Reviewer's comment: Materials and methods section; Most authors would have done a multiple regression analysis. Why did you choose Bonferroni adjusted p-values? What advantages does this have with regards to the study design?

Authors' revision: we used multiple matching (Bonferroni correction) by convenience.

9. Reviewer's comment: results section: Two decimals okay

Authors' revision: we have revised accordingly

10. Reviewer's comment: Discussion section; Use term 'neonates' and rephrase.

11. Authors' revision: Page 10, Line 223: we have revised accordingly

12. . Reviewer's comment: Cross-check references (Norms of journal)

Authors' revision: we have revised accordingly

### VERSION 3 – REVIEW

<b>REVIEWER</b>	Rose McGready Shoklo Malaria Research Unit Thailand
<b>REVIEW RETURNED</b>	16-Sep-2017

<b>GENERAL COMMENTS</b>	The authors have successfully addressed the previous comments on the manuscript and I have no further comments.
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<b>REVIEWER</b>	Dr Gregory Halle-Ekane FACULTY OF HEALTH SCIENCES UNIVERSITY OF BUEA BOX 12 BUEA CAMEROON
<b>REVIEW RETURNED</b>	15-Sep-2017

<b>GENERAL COMMENTS</b>	The reviewer provided a marked copy with additional comments. Please contact the publisher for full details.
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### VERSION 3 – AUTHOR RESPONSE

**Reviewer 2: Dr Gregory Halle-Ekane**

Authors' revision: Introduction section, Page 4, Line 93: we changed "investigate" to "elucidate"

Authors' revision: Method section, Page 5, line 100: we deleted the word "retrospectively"

Authors' revision: Method section, Page 5, line 107 : we changed "taken care of" to "managed by"

Authors' revision: Method section, Page 5, line 109: we changed "taken care of" to " whose staff is comprised of".

Reviewer's comment: SAMPLE SIZE WAS SUPPOSE TO BE CALCULATED USING THE FORMULA FOR COMPARING PROPORTIONS (USING ONE OF THE OUTCOME VARIABLES NOT PREVALENCE) THIS BEING A COMPARATIVE STUDY

Authors' revision: Method section, Page 5, line 113 to 117 we revised our sample size determination using a formula for comparative studies.

Reviewer's comment: I RAISED THIS ISSUE IN MY PREVIOUS REVIEW. THIS SEEMS TO BE AN IMPORTANT GROUP THAT WILL DEFINITELY BRING TO LIGHT SOME PERTINENT ISSUES CONCERNING BREECH DELIVERIES. I DO NOT UNDERSTAND WHY IT IS EXCLUDED. TAKE A LOOK AT THE NUMBER OF CASES IN THIS GROUP (53)!

Authors' revision: Many thanks for this review comment. We do understand your concerns about the vaginal breech cases delivered through caesarean breech birth. However, this was not the objective of our study. We sought to compare vaginal breech birth to vaginal cephalic birth only, caesarean breech birth was out of the scope of our study.

Authors' revision: Method section, Page 6, line 134: we changed "couples" to "dynads"

Authors' revision: Method section, Page 7 line 151: the use of an APGAR score  $\leq 3$  as the cut off for neonatal asphyxia was in conformity with the definition of the American Academy of Pediatrics (reference 16 )

Authors' revision: Method section, Page 7, line 152: we changed "length" to "duration"

Authors' revision: Result section, page 8, line 179: we stated the indication of forceps delivery for VBD.

Authors' revision: Result section, page 8, line 188: we changed "pregnant women" to "parturients"

Authors' revision: Result section, page 9, line 190: as stated in the methods section, the original p value was 0.05. But after random adjustment for confounders using Bonferroni correction we recalculated the p value at 0.006. This means that only variables with p values  $< 0.006$  were considered statistically significant in the final analysis.

Authors' revision: Result section, page 9, line 195: we changed "those delivered through VBD" to " counterparts (VBD group)"

Authors' revision: Result section, page 9, line 198: as stated in the methods section, the original p value was 0.05. But after random adjustment for confounders using Bonferroni correction we recalculated the p value at 0.0125. Meaning that only variables with p values < 0.0125 were considered statistically significant in the final analysis

Reviewer's comment: THE 'PROBLEMATIC CASES' WHICH MIGHT HAVE GIVEN A MORE REALISTIC PICTURE WERE EXCLUDED!('ATTEMPTED BREECH VAGINAL BIRTH' THAT SUBSEQUENTLY HAD A C/S)

Authors' revision: we do understand your concern. Breech caesarean delivery following failed vaginal delivery was not within the scope of our study.

Authors' revision: Discussion section, Page 10, line 222: we changed " face" to " are predisposed to "

Authors' revision: Discussion section, Page 10, line 234: we changed " route" to " mode "

Authors' revision: Page 12, line 269: we changed "mothers" to "paturients"

#### VERSION 4 – REVIEW

<b>REVIEWER</b>	Dr Gregory Halle-Ekane Faculty of health sciences, University of Buea Buea-Cameroon.
<b>REVIEW RETURNED</b>	27-Sep-2017
<b>GENERAL COMMENTS</b>	The reviewer provided a marked copy with additional comments. Please contact the publisher for full details.